

**Notice of Allowability**

Application No.

10/670,832

Examiner

David Ton

Applicant(s)

BELLUOMINI ET AL.

Art Unit

2138

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Application filed 09/25/2003.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 9/25/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

  
**DAVID TON**  
**PRIMARY EXAMINER**

***Examiner Amendment***

1. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.

Authorization for this Examiner's Amendment was given in a telephone interview with Mr. James E. Boice on December 20, 2005 [see attached email].

a). Claim 8, line 1, change " A computer program product, residing on a computer usable medium, for " to – A computer readable medium containing a computer program product for -- [see attached email].

b) Claim 9, line 1, change " The computer program product of claim 8, further comprising: " to -- The computer readable medium of claim 8, the computer program product further comprising: -- [see attached email].

c) Claim 10, line 1, change " The computer program product of claim 8, further comprising: " to -- The computer readable medium of claim 8, the computer program product further comprising: -- [see attached email].

***Allowance***

2. Claims 1-10 are allowed.

3. The following is an Examiner's Statement of Reasons for Allowance:

The prior art of record teaches the claimed invention substantially, but it fails to teach or suggest singly or in combination a system, method and computer product for manipulating data in a state holding elements array, comprising a scan controller for scanning scan data out of a state holding elements array, wherein the scan controller including a cascaded group of state holding elements, each of the state holding elements being a single unpaired state holding element; a clock shifter for controlling movement of data out of each state holding element in the cascaded group; and means for permitting shifting of a datum from a first state holding element in the cascaded group to a second state holding element in the cascaded group only if the second state holding element does not contain a valid datum that time; and a controller coordinator for controlling a mutually exclusive operation of a process controller and the scan controller as set forth in independent claims 1, 5 and 8.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

***Conclusion***

5. The prior art of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Ton whose telephone number is (571) 272-3828. The examiner can normally be reached on M-Th from 5:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
David Ton  
Primary Examiner  
Art Unit 2138

# Attachment

**Ton, David**

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**From:** Jim Boice [boice@dillonyudell.com]  
**Sent:** Tuesday, December 20, 2005 5:22 PM  
**To:** Ton, David  
**Subject:** 10/670,832

Dear Examiner Ton:

In response to our telephone conversation today, please consider the following amendments to Claims 8-10

8. (currently amended) A computer ~~program product, residing on a computer usable medium,~~ readable medium containing a computer program product for manipulating data in a state holding elements array, the computer program product comprising:

program code for enabling a process controller, coupled to a state holding elements array, to move process data through an array of processing units coupled to the state holding elements array;

program code for enabling a scan controller, coupled to the state holding elements array, to scan data out of the state holding elements array, the scan controller:

shifting a first valid datum out of a downstream state holding element in a cascaded group into a state holding element of an output register, the cascaded group including a plurality of single unpaired state holding elements;

subsequently shifting a second valid datum from an first upstream state holding element into the downstream state holding element; and

subsequently shifting a third valid datum from a second upstream state holding element into the first upstream state holding element, whereby each shift of valid data is into a holding element that does not contain valid data at the time of the shift; and

program code for enabling a controller coordinator to control a mutually exclusive operation of the process controller and the scan controller.

9. (currently amended) The computer ~~program product~~ readable medium of claim 8, the computer program product further comprising:

program code for controlling a timing of the shifting of the data out of the cascaded group such that the shifting ends when all data is shifted out of the cascaded group.

10. (currently amended) The computer ~~program product~~ readable medium of claim 8, the computer program product further comprising:

program code for shifting new data, from an input register, into the cascaded group such that each state holding element in the cascaded group contains unique data.